

IN THE CLAIMS:

1. (currently amended) A method for forming a semiconductor device, the method comprising:
providing a semiconductor substrate;
forming a stack over the semiconductor substrate;
forming an insulating layer over the stack;
forming a spacer over the insulating layer;
forming a heavily doped region adjacent the spacer;
removing first spacer after forming the heavily doped region; and
after removing the spacer, implanting through the insulating layer and into the
semiconductor substrate to form an implanted extension region, wherein the
implanted heavily doped region and extension region is are part of a current electrode.
2. (original) The method of claim 1, wherein forming the insulating layer further comprises forming an insulating layer comprising nitrogen.
3. (original) The method of claim 1, wherein forming the insulating layer further comprises forming a layer comprising silicon and nitrogen.
4. (original) The method of claim 1, wherein forming the insulating layer further comprises forming a layer devoid of silicon dioxide.
5. (original) The method of claim 1, wherein providing the semiconductor substrate further comprises providing a semiconductor substrate comprising silicon.
6. (original) The method of claim 1, wherein forming the stack further comprises:
forming a gate dielectric over the semiconductor substrate; and
forming a gate electrode over the gate dielectric.
7. (original) The method of claim 6, wherein forming the stack further comprises forming a capping layer over the gate electrode.

8. (original) The method of claim 7, further comprising removing the capping layer after implanting.

9. (original) The method of claim 1, wherein forming the insulating layer over the stack further comprises forming the insulating layer in contact with the semiconductor substrate.

10. (original) The method of claim 9, wherein forming the insulating layer in contact with the semiconductor substrate further comprises forming a nitride layer in contact with the semiconductor substrate.

11. (canceled)

12. (canceled)

13. (currently amended) ~~The method of claim 11, further comprising forming a second spacer; removing the second spacer; and wherein: forming the insulating layer over the stack is performed after removing the second spacer; and~~
~~the implanted region comprises an extension region. A method for forming a semiconductor device, the method comprising:~~

providing a semiconductor substrate;

forming a stack over the semiconductor substrate;

forming a first spacer over the insulating layer;

implanting into the semiconductor substrate to form a heavily doped region adjacent the first spacer;

removing the first spacer after forming the heavily doped region;

forming an insulating layer over the stack after removing the first spacer;

implanting through the insulating layer and into the semiconductor substrate to form an extension region, wherein the heavily doped region and extension region are part of a current electrode; and

forming a second spacer over the insulating layer.

14. (canceled)

15. (currently amended) The method of claim ~~11~~ 1, wherein forming a the heavily doped region adjacent the spacer further comprises forming a doped epitaxial region.

16. (original) A method of forming a semiconductor device comprising:
providing a semiconductor substrate;
forming a stack over the semiconductor substrate;
forming an insulating layer over the stack and the semiconductor substrate;
implanting through the insulating layer and into the semiconductor substrate to form an extension region;
forming a first spacer over the semiconductor substrate; and
forming a heavily doped region adjacent the first spacer.

17. (original) The method of claim 16, wherein forming the insulating layer further comprises forming a layer devoid of silicon dioxide.

18. (original) The method of claim 16, wherein forming the first spacer is performed after forming the insulating layer.

19. (original) The method of claim 18, further comprising:
removing the first spacer before implanting through the insulating layer; and
forming a second spacer after implanting through the insulating layer; wherein forming the heavily doped region is performed before removing the first spacer.

20. (original) The method of claim 16, wherein forming the first spacer is performed before forming the insulating layer.

21. (original) The method of claim 20, further comprising:
removing the first spacer before forming the insulating layer; and
forming a second spacer after implanting; and wherein forming the heavily doped region is
performed before forming the insulating layer.
22. (original) The method of claim 16, wherein forming the insulating layer further comprises
forming an insulating layer comprising nitrogen.
23. (original) The method of claim 16, wherein forming the insulating layer further comprises
forming a silicon nitride layer.
24. (original) The method of claim 16, wherein providing the semiconductor substrate further
comprises providing a semiconductor substrate comprising silicon.
25. (original) The method of claim 16, wherein forming a stack further comprises:
forming a gate dielectric over the semiconductor substrate; and
forming a gate electrode over the gate dielectric.
26. (original) The method of claim 21, wherein forming the stack further comprises forming a
capping layer over the gate electrode.
27. (original) The method of claim 26, further comprising removing the capping layer after
implanting.
28. (original) The method of claim 16, wherein forming the insulating layer over the stack
further comprises forming the insulating layer in contact with the semiconductor substrate.
29. (original) The method of claim 16, wherein forming the insulating layer in contact with the
semiconductor substrate further comprises forming a nitride layer in contact with the
semiconductor substrate.

30. (original) A method of forming a semiconductor device, the method comprising:
- providing a semiconductor substrate;
 - forming a stack over the semiconductor substrate;
 - forming an insulating layer over the stack and the semiconductor substrate;
 - implanting an extension region through the insulating layer and into the semiconductor substrate;
 - forming a spacer adjacent the stack and over the insulating layer;
 - removing a portion of the insulating layer over the semiconductor substrate; and
 - forming a heavily doped region within the semiconductor region and adjacent the spacer.
31. (original) The method of claim 30, wherein forming the insulating layer further comprises forming a layer devoid of silicon dioxide.
32. – 34. canceled